

MMC 2 INSTALLATION INSTRUCTION MANUAL

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With a little experience, one person can install an MMC 2. However, for the first time, it is recommended that an assistant help with steps D and E of the installation.

A. SELECTION OF SPEAKER LOCATION

Before a permanent installation is begun, we suggest that the Magneplanar Temporary Mounting Kit be used to determine if the selected location gives the desired audio performance for the MMC 2s. A set of mounting brackets are included with the MMC 2 for this purpose. Install the rubber washer on the bottom shaft to keep the speaker in the desired position.

Because the MMC 2 can be used for any channel in a home theater or music system (including as a center channel), and because room conditions vary greatly, specific and detailed instructions are not practical. However, there are general guidelines to follow.

Avoid corners. Choose a placement that will position the MMC 2 as far from a corner as possible - preferably more than 3 or 4 feet and the further, the better. We want you to be a satisfied customer and this is a critical issue for good sound. This is especially important for the front channels. Rear channels play a lesser role and more liberties can be taken with the rear channels.

Choose a placement that will allow the bottom of the MMC 2 to be approximately 26 inches from the floor for proper high frequency dispersion when you are sitting or standing.

To help determine the front of the MMC 2, the quasi ribbon foil can be seen through the fabric on the front of the speaker. The speakers should be mounted so that the front of the speakers are on axis with the listener.

CAUTION- Using a level, check to see if the walls are within building code for plumb (vertical to a level floor). If the walls are too far out of plumb, the speakers may not open or close.

B. PAINTING SPEAKER FRAMES

Many customers will want to paint the top and bottom molding to match their decor. The top and bottom frames can be ordered with a primer coat. We recommend Krylon spray can paint.

1. Mask off hardware in the speaker frames to prevent paint from fouling mechanical parts. Using a very fine steel wool or sandpaper, lightly sand the primer surface to remove any possible contaminants from oily fingers, etc.
2. Spray 4 or 5 light coats, allowing drying time to prevent runs in the paint and for a smooth finish. Sand with fine 600 sandpaper between coats for an extra-smooth finish.
3. Spray a coat of Krylon clear coat (gloss or satin) to protect the finish.
4. Install the speaker trim in the edge of the speaker with a rubber mallet. (Masking tape over the trim will help prevent marring of the finish from the rubber mallet.)
5. Install 3/4 inch, 18 ga. brads in the speaker trim to secure the trim.

C. TIPS FROM THE PROS FOR DO-IT-YOURSELFERS

1. To run a speaker wire into a wall and out another hole at the bottom, insert a fine steel chain in the top hole that is the length needed to reach the junction box. Use a magnet at the junction box to locate the steel chain. The steel chain will be used to pull the speaker wires through the wall.
2. Instead cases where it is not practical to route the wires in the wall, hide-a-cord channels can be used to route the wires on the wall. 1) Reroute the motor wires in the clearance space of the motor bracket (photo below). 2) Cut a slot on the bottom frame to allow the motor wires to be located between the wall and the bottom frame (photo below). 3) Select hide-a-cord channels which are less than _____ inches thick to allow the MMC 2 panel to fully close.
3. A low voltage junction box, at a convenient location, is highly recommended.

WALL PREPARATION

1. Position the hardboard template against the wall approx. 26" from the floor where the speaker is to be located. Locate the speaker between studs whenever possible. Mark the wall using the upper right corner hole of the template. Set the template aside.
2. Drill a 1/4" dia. hole in that location.
3. Hold the template against the wall and insert a 1/4" dia. dowel in the hole, leaving 1/4" exposed. See Fig. 1.
4. Level the template by placing a level on the top or side of the template. See Fig. 2. CAUTION- Take great care to ensure that the wall is plumb (vertical) and the template is level before drilling the holes. The speakers will not close or open if severely out of plum or level. As an additional precaution, tape the template into position once the template is level--and recheck the level. Misaligned holes are a SERIOUS problem and will require starting over with the installation in a different location.
5. Drill a 1/4" dia. hole in the upper left corner of the template. Insert a 1/4" dia. dowel in this hole. Maintaining the template in a level position, drill a second hole in the bottom MIDDLE hole and install a dowel. Now, the template will hang unassisted.
6. CAUTION- Double-check to be sure that the template is level. The 4 corner holes are hyper-critical. Once they are drilled, there is very little adjustment that can be done to correct misalignment of the motor mounts or level. The center top and bottom holes are access holes and are not critical to proper alignment.
7. Install (4) sheet rock anchors in the outermost (4) holes. Center holes are for wire feed only.
8. Install (4) #8 x 1-1/2" screws, keeping the screw head approx. 3/16" from the wall using the spacer provided. USE HAND TOOLS ONLY. NO POWER TOOLS!
9. Install painter's tape on the wall above the location of the top frame to prevent marring of the wall while installing the top frame.

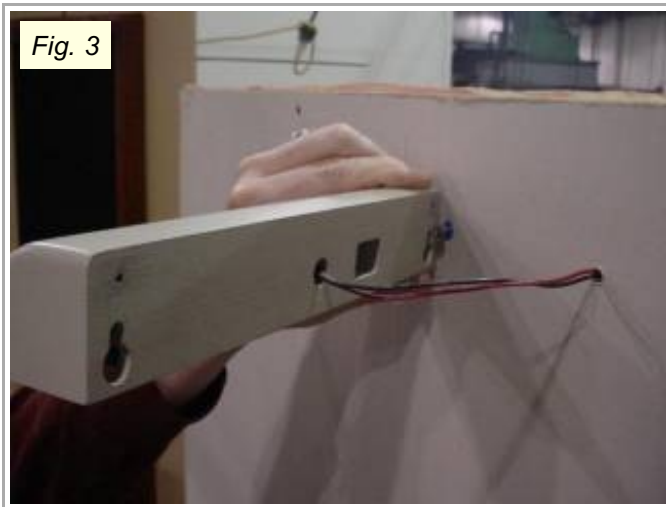


Fig. 2



D. TOP FRAME INSTALLATION

1. Thread motor wires through the 1/4" dia. center hole and attach the top frame using keyholes on the back of the top frame. If necessary, adjust the screw height to insure a snug fit of the top motor frame to the wall. See Fig. 3 & 4.



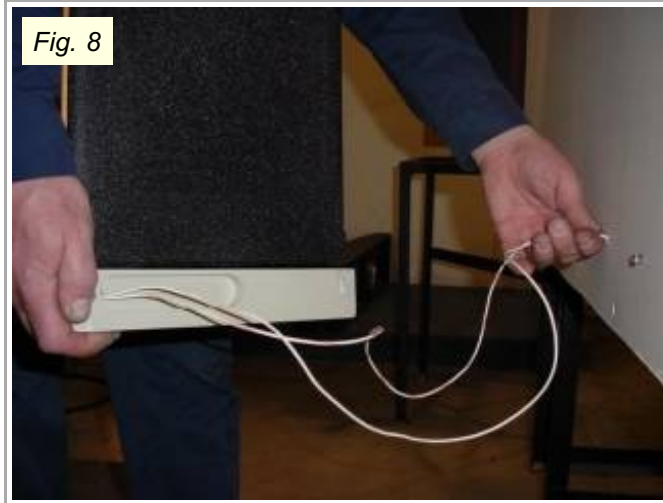
E. ATTACHING BOTTOM FRAME TO SPEAKER

1. Lay the speaker on a table with the bottom extending about 12" over the edge of the table.
2. Thread the speaker wires through the bottom frame and insert the bottom pin of the speaker into the pivot hole of the bottom frame. See Fig. 5 & 6.



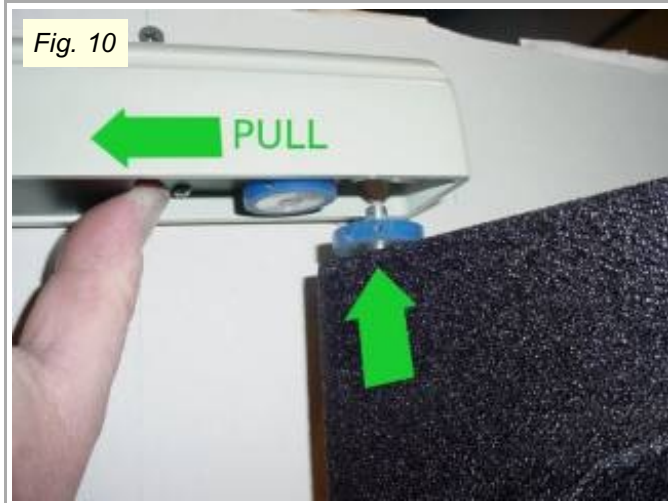
F. BOTTOM FRAME ATTACHMENT TO WALL

1. While keeping the bottom frame and speaker together, take the speaker to the wall for installation. See Fig. 7.
2. Feed the speaker wire through the 1/4" dia. bottom center hole and attach the lower frame to the wall using the keyholes on the back of the bottom frame. See Fig. 8 & 9.



G. FINAL SPEAKER INSTALLATION

This final step is the most difficult (and may require the help of an assistant). Slightly raise the top frame to allow clearance for the pin on the top of the speaker wheel to clear the top frame when it will be moved into position. See Fig. 10. Slide the motor assembly (and drive wheel) back with your thumb (See Fig. 10) to allow clearance between the two wheels so that the shaft on the speaker can be inserted into the top frame pivot hole. See Fig. 10.



H. Final Adjustments

1. The top frame must be snug to the wall to prevent accidental dislodging of the top frame. Readjust the top screw heights, if necessary, for a snug fit into the key holes.
2. Important- The wheels must be properly aligned for FULL contact to ensure that the wheels will not slip during opening or closing. Adjust the wheel height on the speaker with the included allen wrench, if necessary. The help of an assistant will be required to adjust the wheel height. Raise the top frame and, with the help of an assistant, hold the speaker in position while loosening the two wheel set screws. Reinstall the shaft into the top frame pivot hole while pulling the motor assembly to allow for wheel clearance. Slide the loosened wheel up on the shaft to have maximum contact with the drive wheel. Tighten the two set screws.
3. Check for excessive friction-- If the MMC 2 is installed using a level so that the motor is not pushing the panel "uphill" upon opening or closing, and the speaker panel is free to move without undue resistance, the motor and drive wheels can reliably open and close the MMC 2. To confirm that the speaker panel can move freely, pull the drive motor assembly back with your thumb so that the drive wheel is disengaged from the idler wheel. Slowly move the speaker panel through it's 180 degree range of motion to check for excessive resistance.
4. The template provides very accurate placement of the top and bottom frame holes. However, mistakes can happen. In the event the gap between the top or bottom frame and the speaker is not correct, a modification is possible to allow for some adjustment of the gap spacing. The frame key hole slot can be lengthened with a file or Dremel tool to allow the frame to be lowered on one side. However, the head of the pan-head screw will impact on the interior portion of the frame. It is necessary to modify the screw with a file or grinder. First, make certain that the screw to be modified is adjusted to the correct amount to ensure a tight fit of the frame. Mark the top portion of the screw head with a permanent marker and remove the screw. Grind or file the marked portion of the screw and reinstall.

I. HOOKUP

Connect the positive (red) speaker wire to the MMC 2 white and red wire. We recommend that the connection to the speaker wire be soldered with shrink tubing for electrical insulation. Check for correct phasing before making a permanent connection.

J. In case you miss it in the manual-

A few hints when installing the Controller/Power Supply for the MMC 2-- 1) Be sure to set the motor timer for

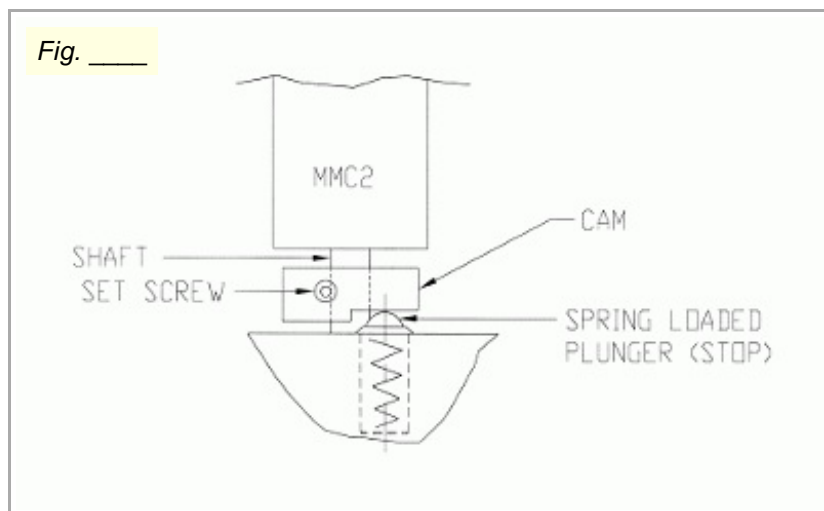
approximately 2 seconds longer than is needed to fully open or close the speaker panels. 2) Use equal length wires to each motor so the voltage drop is the same to achieve uniform motor speed. 3) Set the motor voltage (speed) as slow as practical.

K. SPEAKER ANGLE ADJUSTMENT

For the best sound, the MMC 2 should be angled so that the panel is on-axis with the listener with a minimum distance from the wall of 30 degrees. (Use of the MMC 2 as a dual center channel speaker requires slightly different adjustments. Contact Magnepan for dual center speaker installations).

This adjustment can be challenging on your first attempt. The figure, below, shows the concept of the Cam/Stop. It is not an actual drawing of the parts, but, the visualization of the design may be helpful to make the adjustment.

CAUTION-- Before you begin the adjustment, take the precaution of securing the top frame. It will be necessary to lift up on the speaker frame as you make this adjustment. This could result in the top frame coming loose from the wall and falling. Painter's tape can help to prevent the top frame from being pushed upward during the speaker angle adjustment.



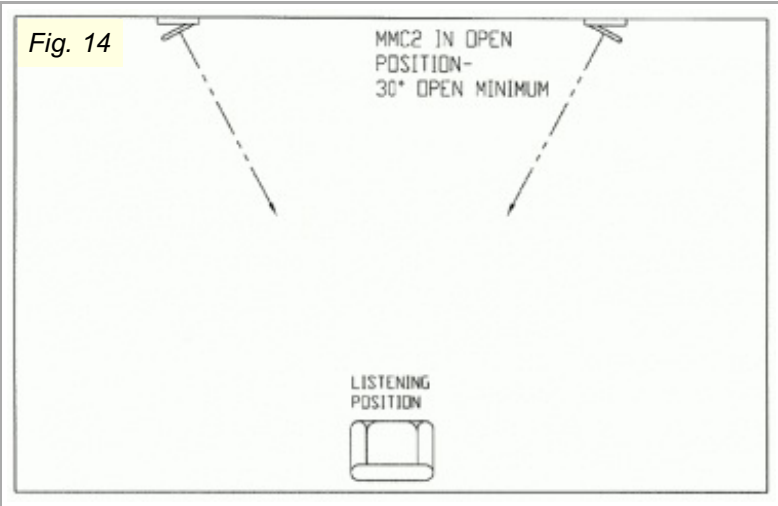
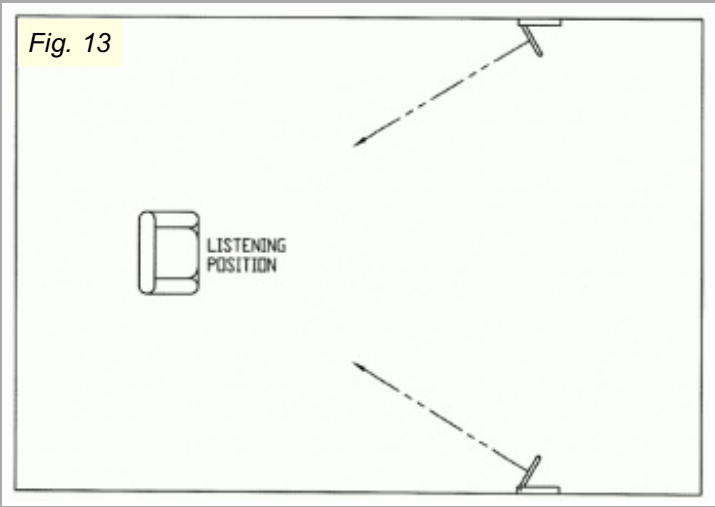
Pull the MMC 2 out until you feel the resistance of the Cam/Stop. (Note- If you do not feel the resistance of the Cam/Stop, the Cam has been rotated 180 degrees and the Cam must be rotated further until the Cam and Stop intersect.) Insert the long 5/64 inch allen wrench into the Cam/Stop at the bottom of the speaker as shown in Fig. 1 and 2 below and loosen the allen screw. Rotate the MMC 2 to the desired position as shown in Fig. 3 and 4 while holding the Cam/Stop stationary. It is necessary to raise the MMC 2 slightly to remove the weight of the speaker off of the Cam/Stop so that the speaker can be rotated independently of the Cam/Stop. Tighten the allen screw. If the Cam/Stop moves in the process of moving the MMC 2, the angle will be wrong. In that case, another adjustment will be necessary.

The angle of the MMC 2 should never be set for less than 30 degrees for optimum sound.

Setting stop in closed position-- A nylon screw is included with the MMC 2 to act as a stop so that the MMC 2 can be adjusted to be parallel with the wall in the closed position. The screw hole is located at the bottom inside edge of the MMC 2. To ensure that the nylon screw will not loosen, wrap Teflon plumber's tape on the threads or a drop of blue Loctite or score the threads lengthwise.

Fig. 11





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